

B-4.2 STANDARDS AND SPECIFICATIONS

FOR

SOIL PREPARATION, TOPSOILING, AND SOIL AMENDMENTS

Definition

The process of preparing the soils to sustain adequate vegetative stabilization.

Purpose

To provide a suitable soil medium for vegetative growth.

Conditions Where Practice Applies

Where vegetative stabilization is to be established.

Criteria

A. Soil Preparation

1. Temporary Stabilization

a. Seeded preparation consists of loosening soil to a depth of 3 to 5 inches by means of suitable agricultural or construction equipment, such as disc harrows or chisel plows or rippers mounted on construction equipment. After the soil is loosened, it must not be rolled or dragged smooth but left in the roughened condition. Slopes 3:1 or flatter are to be tracked with ridges running parallel to the contour of the slope.

b. Apply fertilizer and lime as prescribed on the plans.

c. Incorporate lime and fertilizer into the top 3 to 5 inches of soil by disking or other suitable means.

2. Permanent Stabilization

a. A soil test is required for any earth disturbance of 5 acres or more. The minimum soil conditions required for permanent vegetative establishment are:

- i. Soil pH between 6.0 and 7.0.
ii. Soluble salts less than 500 parts per million (ppm).
iii. Soil contains less than 40 percent clay but enough fine grained material (greater than 30 percent silt plus clay) to provide the capacity to hold a moderate amount of moisture. An exception: if legumes will be planted, then a sandy soil (less than 30 percent silt plus clay) would be acceptable.
iv. Soil contains 1.5 percent minimum organic matter by weight.
v. Soil contains sufficient pore space to permit adequate root penetration.

b. Application of amendments or topsoil is required if on-site soils do not meet the above conditions.

c. Graded areas must be maintained in a true and even grade as specified on the approval plan, then scarified or otherwise loosened to a depth of 3 to 5 inches.

B.12

d. Apply soil amendments as specified on the approved plan or as indicated by the results of a soil test.

e. Mix soil amendments into the top 3 to 5 inches of soil by disking or other suitable means. Rake lawn areas to smooth the surface, remove large objects like stones and branches, and ready the area for seed application. Loosen surface soil by dragging with a heavy chain or other equipment to roughen the surface where site conditions will not permit normal seeded preparation. Track slopes 3:1 or flatter with tracked equipment leaving the soil in an irregular condition with ridges running parallel to the contour of the slope. Leave the top 1 to 3 inches of soil loose and friable. Seeded loosening may be unnecessary on newly disturbed areas.

B. Topsoiling

1. Topsoil is placed over prepared subsoil prior to establishment of permanent vegetation. The purpose is to provide a suitable soil medium for vegetative growth. Soils of concern have low moisture content, low nutrient levels, low pH, materials toxic to plants, and/or unacceptable soil gradation.

2. Topsoil salvaged from an existing site may be used provided it meets the standards as set forth in these specifications. Typically, the depth of topsoil to be salvaged for a given soil type can be found in the representative soil profile section in the Soil Survey published by USDA-NRCS.

3. Topsoiling is limited to areas having 2:1 or flatter slopes where:

- a. The texture of the exposed subsoil/parent material is not adequate to produce vegetative growth.
b. The soil material is so shallow that the rooting zone is not deep enough to support plants or furnish continuing supplies of moisture and plant nutrients.
c. The original soil to be vegetated contains material toxic to plant growth.
d. The soil is so acidic that treatment with limestone is not feasible.

4. Areas having slopes steeper than 2:1 require special consideration and design.

5. Topsoil Specifications: Soil to be used as topsoil must meet the following criteria:

- a. Topsoil must be a loam, sandy loam, clay loam, silt loam, sandy clay loam, or loamy sand. Other soils may be used if recommended by an agronomist or soil scientist and approved by the appropriate approval authority. Topsoil must not be a mixture of contrasting textured subsoils and must contain less than 5 percent by volume of cinders, stones, slag, coarse fragments, gravel, sticks, roots, trash, or other materials larger than 1 1/4 inches in diameter.
b. Topsoil must be free of noxious plants or plant parts such as Bermuda grass, quack grass, Johnson grass, nut sedge, poison ivy, filaria, or others as specified.
c. Topsoil substitutes or amendments, as recommended by a qualified agronomist or soil scientist and approved by the appropriate approval authority, may be used in lieu of natural topsoil.

6. Topsoil Application

a. Erosion and sediment control practices must be maintained when applying topsoil.
b. Uniformly distribute topsoil in a 5 to 8 inch layer and lightly compact to a minimum thickness of 4 inches. Spreading is to be performed in such a manner that sodding or seeding can proceed with a minimum of additional soil preparation and tillage. Any irregularities in the surface resulting from topsoiling or other operations must be corrected in order to prevent the formation of depressions or water pockets.

c. Topsoil must not be placed if the topsoil or subsoil is in a frozen or muddy condition, when the subsoil is excessively wet or in a condition that may otherwise be detrimental to proper grading

B.13

and seeded preparation.

C. Soil Amendments (Fertilizer and Lime Specifications)

1. Soil tests must be performed to determine the exact ratios and application rates for both lime and fertilizer on sites having disturbed areas of 5 acres or more. Soil analysis may be performed by a recognized private or commercial laboratory. Soil samples taken for engineering purposes may also be used for chemical analyses.

2. Fertilizers must be uniform in composition, free flowing and suitable for accurate application by appropriate equipment. Manure may be substituted for fertilizer with prior approval from the appropriate approval authority. Fertilizers must all be delivered to the site fully labeled according to the applicable laws and must bear the name, trade name or trademark and warranty of the producer.

3. Lime materials must be ground limestone (hydrated or burnt lime may be substituted except when hydrosodding) which contains at least 50 percent total oxides (calcium oxide plus magnesium oxide). Limestone must be ground to such fineness that at least 50 percent will pass through a #100 mesh sieve and 98 to 100 percent will pass through a #20 mesh sieve.

4. Lime and fertilizer are to be evenly distributed and incorporated into the top 3 to 5 inches of soil by disking or other suitable means.

5. Where the subsoil is either highly acidic or composed of heavy clays, spread ground limestone at the rate of 4 to 8 tons/acre (200-400 pounds per 1,000 square feet) prior to the placement of topsoil.

B.14

B-4.3 STANDARDS AND SPECIFICATIONS

FOR

STOCKPILE AREA

Definition

A mound or pile of soil protected by appropriately designed erosion and sediment control measures.

Purpose

To provide a designated location for the temporary storage of soil that controls the potential for erosion, sedimentation, and changes to drainage patterns.

Conditions Where Practice Applies

Stockpile areas are utilized when it is necessary to salvage and store soil for later use.

Criteria

- 1. The stockpile location and all related sediment control practices must be clearly indicated on the erosion and sediment control plan.
2. The footprint of the stockpile must be sized to accommodate the anticipated volume of material and based on a side slope ratio no steeper than 2:1. Benching must be provided in accordance with Section B-3 Land Grading.
3. Runoff from the stockpile area must drain to a suitable sediment control practice.
4. Access the stockpile area from the upgrade side.
5. Clear water runoff into the stockpile area must be minimized by use of a diversion device such as an earth dike, temporary swale or diversion fence. Provisions must be made for discharging concentrated flow in a non-erosive manner.
6. Where runoff concentrates along the toe of the stockpile fill, an appropriate erosion/sediment control practice must be used to intercept the discharge.
7. Stockpiles must be stabilized in accordance with the 3:7 day stabilization requirement as well as Standard B-4-1 Incremental Stabilization and Standard B-4-4 Temporary Stabilization.
8. If the stockpile is located on an impervious surface, a liner should be provided below the stockpile to facilitate cleanup. Stockpiles containing contaminated material must be covered with impervious sheeting.

Maintenance

The stockpile area must continuously meet the requirements for Adequate Vegetative Establishment in accordance with Section B-4 Vegetative Stabilization. Side slopes must be maintained at no steeper than a 2:1 ratio. The stockpile area must be kept free of erosion. If the vertical height of a stockpile exceeds 20 feet for 2:1 slopes, 30 feet for 3:1 slopes, or 40 feet for 4:1 slopes, benching must be provided in accordance with Section B-3 Land Grading.

B.13

B-4.3 STANDARDS AND SPECIFICATIONS

FOR

SEEDING AND MULCHING

Definition

The application of seed and mulch to establish vegetative cover

Purpose

To protect disturbed soils from erosion during and at the end of construction.

Conditions Where Practice Applies

To the surface of all perimeter controls, slopes, and any disturbed area not under active grading.

Criteria

A. Seeding

1. Specifications

a. All seed must meet the requirements of the Maryland State Seed Law. All seed must be subject to re-testing by a recognized seed laboratory. All seed used must have been treated within the 6 months immediately preceding the date of sowing such material on any project. Refer to Table B.4 regarding the quality of seed. Seed tags must be available upon request to the inspector to verify type of seed and seeding rate.

b. Mulch alone may be applied between the fall and spring seeding dates only if the ground is frozen. The appropriate seeding mixture must be applied when the ground thaws.

c. Inoculants: The inoculant for treating legume seed in the seed mixtures must be a pure culture of nitrogen fixing bacteria prepared specifically for the species. Inoculants must not be used later than the date indicated on the container. Add fresh inoculants as directed on the package. Use four times the recommended rate when hydrosodding. Note: It is very important to keep inoculant as cool as possible until used. Temperatures above 75 to 80 degrees Fahrenheit can weaken bacteria and make the inoculant less effective.

d. Sod or seed must not be placed on soil which has been treated with soil sterilants or chemicals used for weed control until sufficient time has elapsed (14 days min.) to permit dissipation of phytotoxic materials.

2. Application

a. Dry Seeding: This includes use of conventional drup or broadcast spreaders.

i. Incorporate seed into the subsoil at the rates prescribed on Temporary Seeding Table B.1, Permanent Seeding Table B.3, or site-specific seeding summaries.

ii. Apply seed in two directions, perpendicular to each other. Apply half the seeding rate in each direction. Roll the seeded area with a weighted roller to provide good seed to soil contact.

B.15

b. Drill or Cultipacker Seeding: Mechanized seeders that apply and cover seed with soil.

i. Cultipacker seeders are required to bury the seed in such a fashion as to provide at least 1/4 inch of soil covering. Seeded must be firm after planting.

ii. Apply seed in two directions, perpendicular to each other. Apply half the seeding rate in each direction.

c. Hydrosodding: Apply seed uniformly with hydrosower (slurry includes seed and fertilizer).

i. If fertilizer is being applied at the time of seeding, the application rates should not exceed the following: nitrogen, 100 pounds per acre total of soluble nitrogen; P2O5 (phosphorous), 200 pounds per acre; K2O (potassium), 200 pounds per acre.

ii. Lime: Use only ground agricultural limestone (up to 3 tons per acre may be applied by hydrosodding). Normally, not more than 2 tons are applied by hydrosodding at any one time. Do not use burnt or hydrated lime when hydrosodding.

iii. Mix seed and fertilizer on site and seed immediately and without interruption.

iv. When hydrosodding do not incorporate seed into the soil.

B. Mulching

1. Mulch Materials (in order of preference)

a. Straw consisting of thoroughly threshed wheat, rye, oat, or barley and reasonably bright in color. Straw is to be free of noxious weed seeds as specified in the Maryland Seed Law and not musty, moldy, caked, decayed, or excessively dirty. Note: Use only sterile straw mulch in areas where one species of grass is desired.

b. Wood Cellulose Fiber Mulch (WCFM) consisting of specially prepared wood cellulose processed into a uniform fibrous physical state.

i. WCFM is to be dyed green or contain a green dye in the package that will provide an appropriate color to facilitate visual inspection of the uniformly spread slurry.

ii. WCFM, including dye, must contain no germination or growth inhibiting factors.

iii. WCFM materials are to be manufactured and processed in such a manner that the wood cellulose fiber mulch will remain in uniform suspension in water under agitation and will blend with seed, fertilizer and other additives to form a homogeneous slurry. The mulch material must form a blatter-like ground cover on application, having moisture absorption and percolation properties and must cover and hold grass seed in contact with the soil without inhibiting the growth of the grass seedlings.

iv. WCFM material must not contain elements or compounds at concentration levels that will be phytotoxic.

v. WCFM must conform to the following physical requirements: fiber length of approximately 10 millimeters, diameter approximately 1 millimeter, pH range of 4.0 to 8.5, ash content of 1.6 percent maximum and water holding capacity of 90 percent minimum.

B.16

2. Application

a. Apply mulch to all seeded areas immediately after seeding.

b. When straw mulch is used, spread it over all seeded areas at the rate of 2 tons per acre to a uniform loose depth of 1 to 2 inches. Apply mulch to achieve a uniform distribution and depth so that the soil surface is not exposed. When using a mulch anchoring tool, increase the application rate to 2.5 tons per acre.

c. Wood cellulose fiber used as mulch must be applied at a net dry weight of 1500 pounds per acre. Mix the wood cellulose fiber with water to attain a mixture with a maximum of 50 pounds of wood cellulose fiber per 100 gallons of water.

3. Anchoring

a. Perform mulch anchoring immediately following application of mulch to minimize loss by wind or water. This may be done by one of the following methods (listed by preference), depending upon the size of the area and erosion hazard:

i. A mulch anchoring tool is a tractor drawn implement designed to punch and anchor mulch into the soil surface a minimum of 2 inches. This practice is most effective on large areas, but is limited to flatter slopes where equipment can operate safely. If used on sloping land, this practice should follow the contour.

ii. Wood cellulose fiber may be used for anchoring straw. Apply the fiber binder at a net dry weight of 750 pounds per acre. Mix the wood cellulose fiber with water at a maximum of 50 pounds of wood cellulose fiber per 100 gallons of water.

iii. Synthetic binders such as Acrylic DLR (Agro-Tack), DCA-70, Petrosel, Terra Tex II, Terra Tack AR, or other approved equal may be used. Follow application rates as specified by the manufacturer. Application of liquid binders needs to be heavier at the edges where wind catches mulch, such as in valleys and on crests of banks. Use of asphalt binders is strictly prohibited.

iv. Lightweight plastic netting may be stapled over the mulch according to manufacturer recommendations. Netting is usually available in rolls 4 to 15 feet wide and 100 to 3,000 feet long.

PLAN PREPARED BY:

Land Surveying and Planning
2770 TERRAPIN RUN
WEST FRIENDSHIP, MD 21794
TEL: (240) 608-3200
Email: ROSHANN@AOL.COM

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL LAND SURVEYOR UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE # 11048, EXPIRATION DATE: 2/10/2023. APRIL 15, 2022 DATE

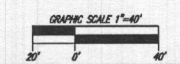
DEVELOPER
CARUSO HOMES
2120 BALDWIN AVENUE,
Ste 200
CROFTON, MD 21144
(301) 261-0277
OWNER
RICARDO PALACIOS
1808 GREENWICH WOOD DRIVE
SILVER SPRING, MD 20903
(304) 292-9878

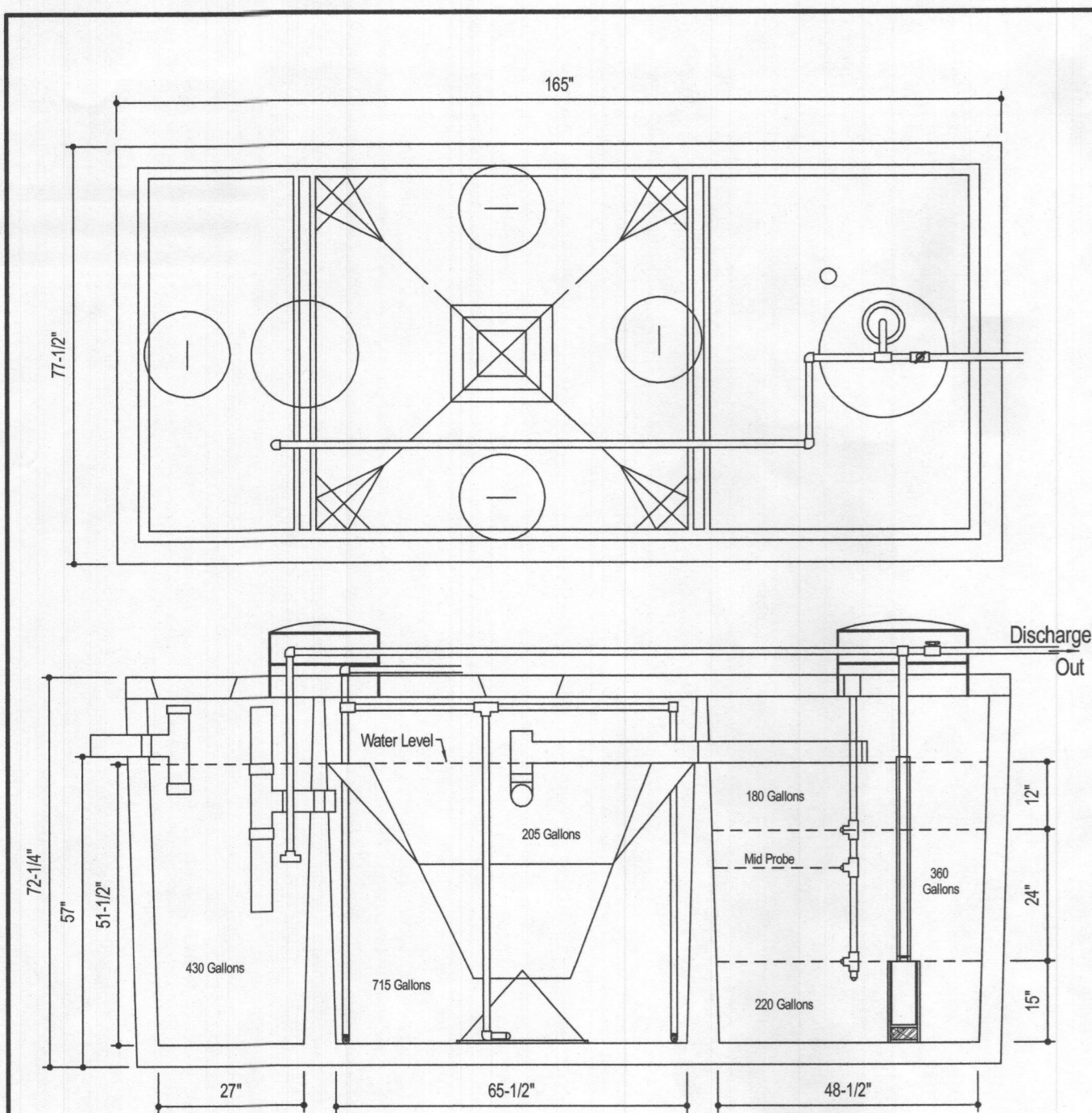
SIMPLIFIED ENVIRONMENTAL CONCEPT PLAN
SEDIMENT AND EROSION CONTROL NOTES
PARCEL 274
TAX MAP 40, GRID 6
LIBER 20485, FOLIO 116
12370 HALL SHOP ROAD, HIGHLAND, MARYLAND 20777
5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
SCALE: 1" = 40' JOB NO.: 3580 DATE: FEB. 10, 2021 SHEET: 4 OF 4

ENGINEER'S CERTIFICATE
I CERTIFY THAT THIS PLAN FOR SEDIMENT AND EROSION CONTROL REPRESENTS A PRACTICAL AND WORKABLE DESIGN AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. APR 15, 2022 DATE

DEVELOPER'S CERTIFICATE
I HEREBY CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN FOR SEDIMENT AND EROSION CONTROL, AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT PROVIDED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERSONS ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT. SIGNATURE OF DEVELOPER DATE

APPROVED: HOWARD SOIL CONSERVATION DISTRICT
THIS PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT. SIGNATURE DATE





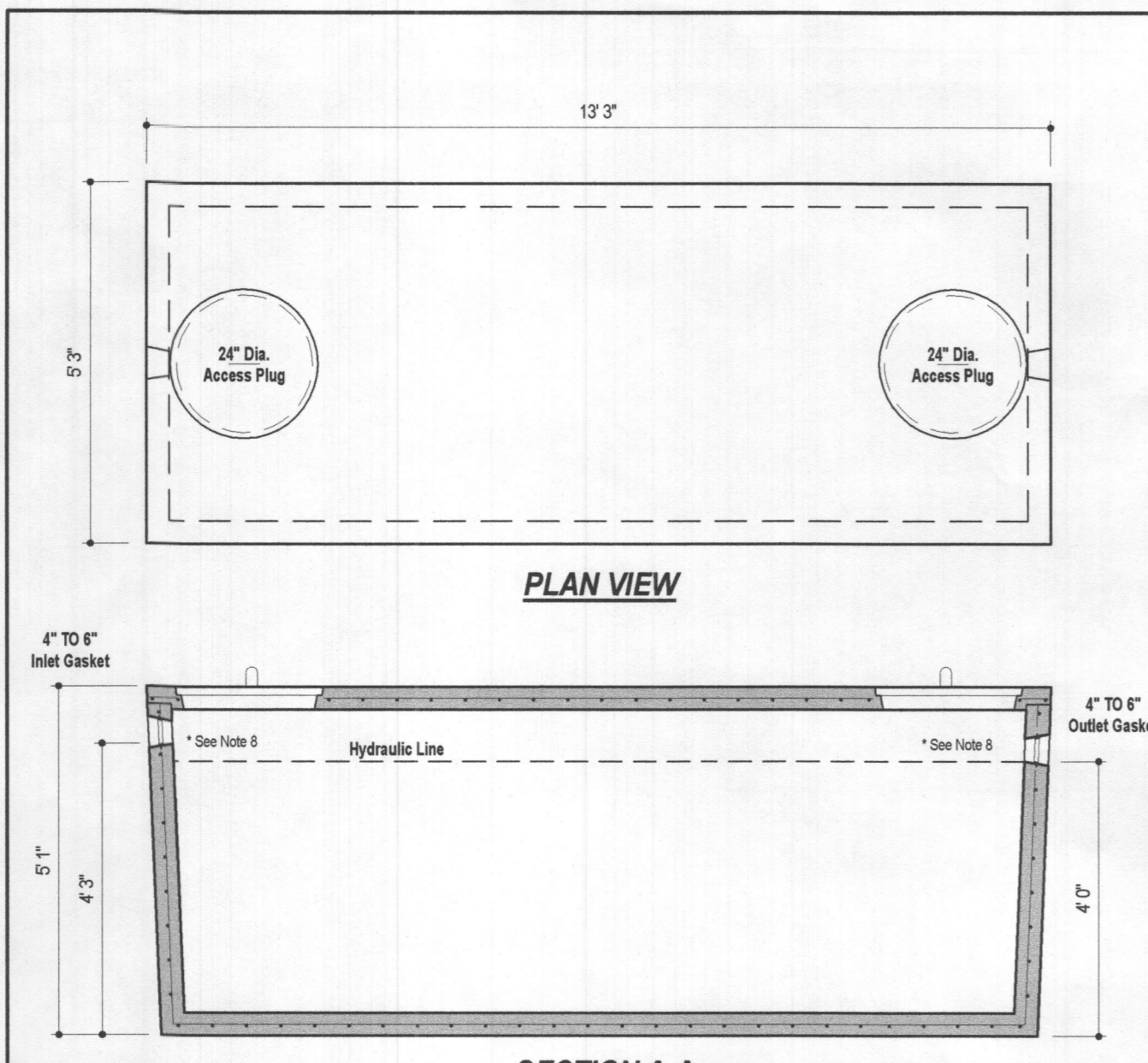
DESIGN DATA & GENERAL NOTES

- Concrete strength $f_c=4,000$ p.s.i. @ 28 days. Density = 150 pcf.
- Cement - Portland Type III per ASTM C 150-82.
- Admixtures & plasticizers per ASTM C 260-88 & C 484-92.
- Reinforcing per ASTM A195. Min. 1-1/2" cover.
- Top slab sealed with butyl rosin mastic.
- 4" wall, base, & top thickness.
- Max 3" of cover.
- Depending on use of tank, Inlet & Outlet baffles may be required by code.

Mayer Brothers, Inc.
 6264 Race Road
 Elkridge, Maryland 21075
 Tel: 410.796.1434
 Fax: 410.796.1438
 www.mayerbroscast.com

MBI
 Dwg. No. Hoot Form #1 No Scale March 19, 2009

600 GPD BNR SYSTEM
H-600 BNR
 with 750 GALLON PUMP CHAMBER



DESIGN DATA & GENERAL NOTES

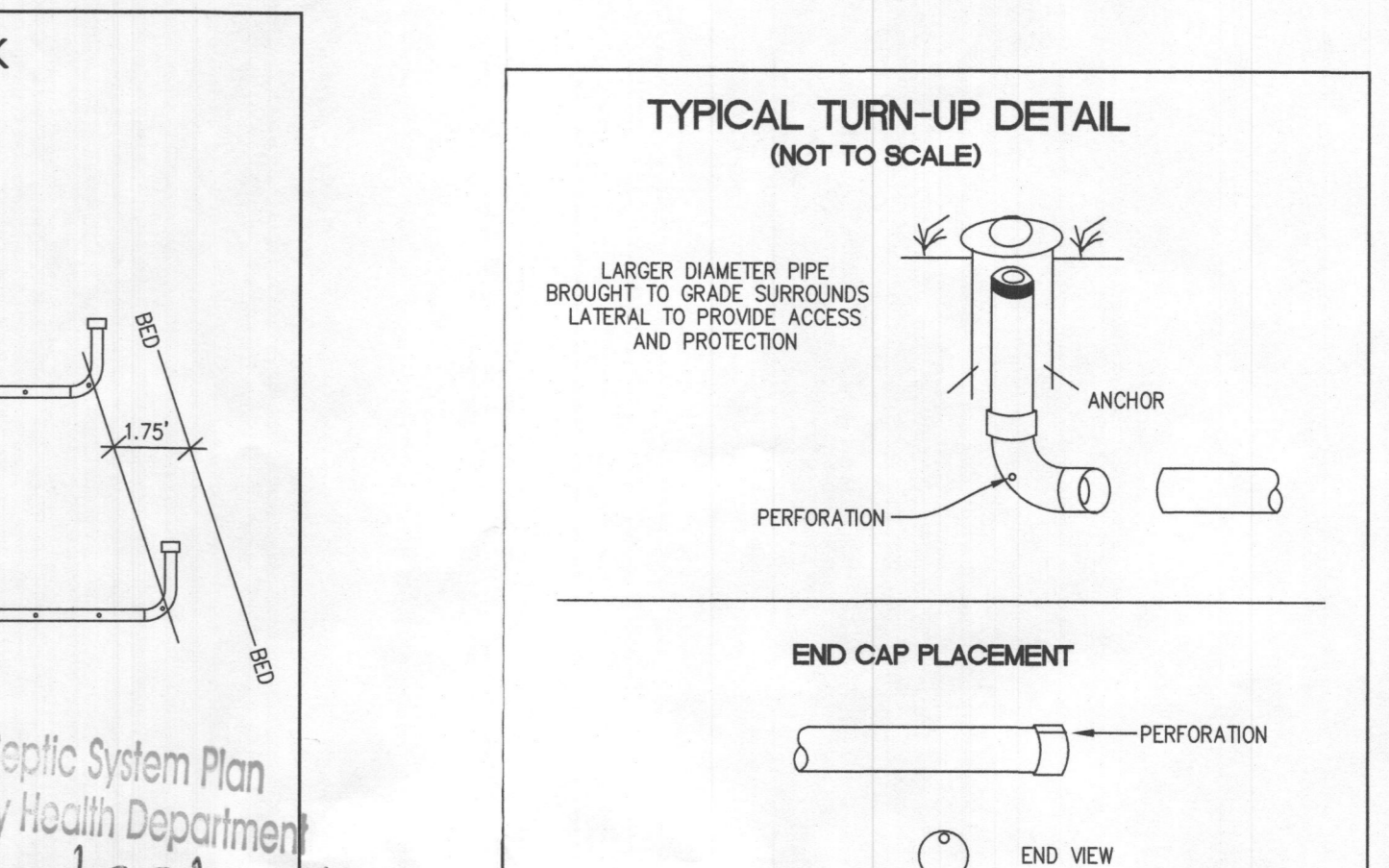
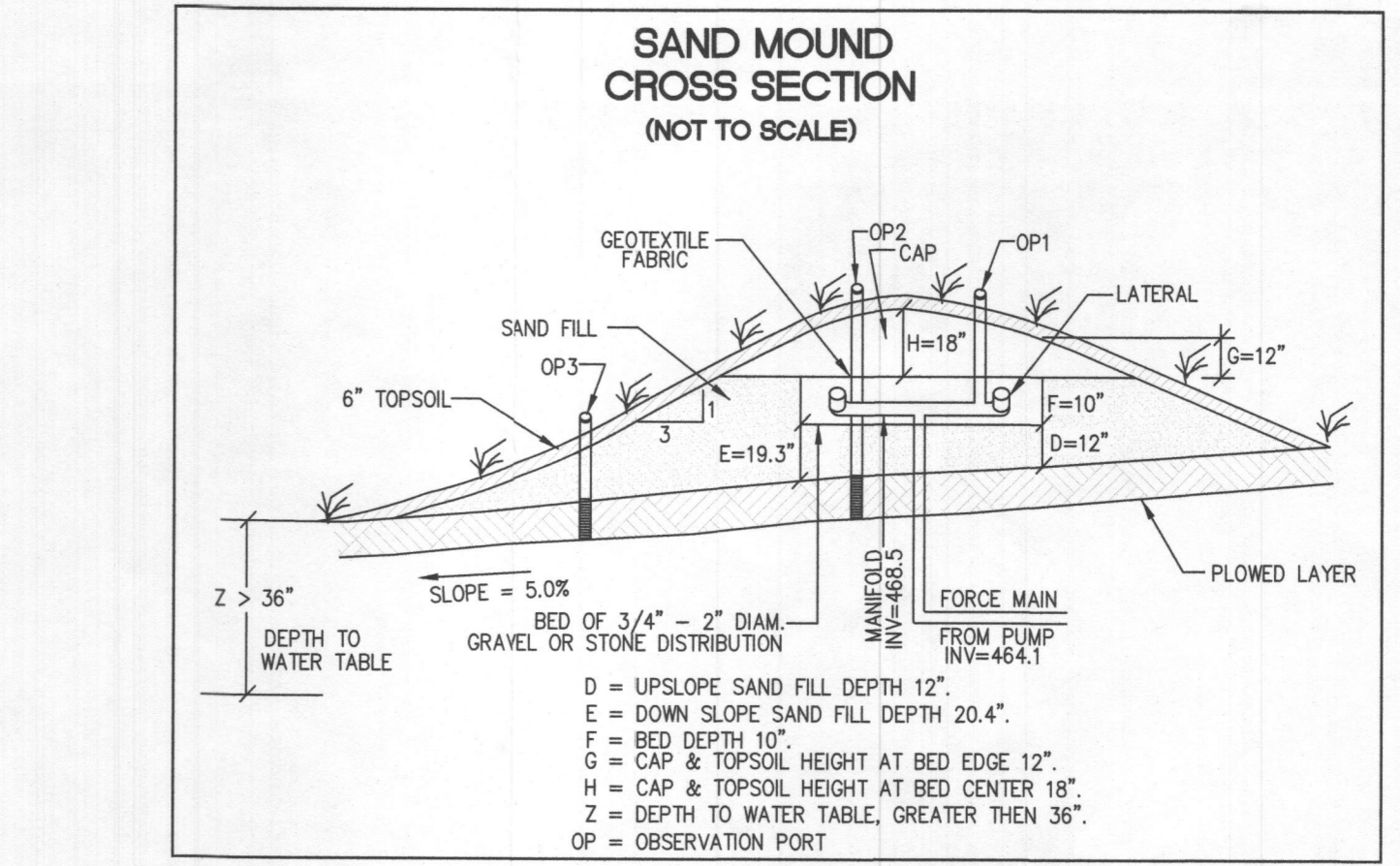
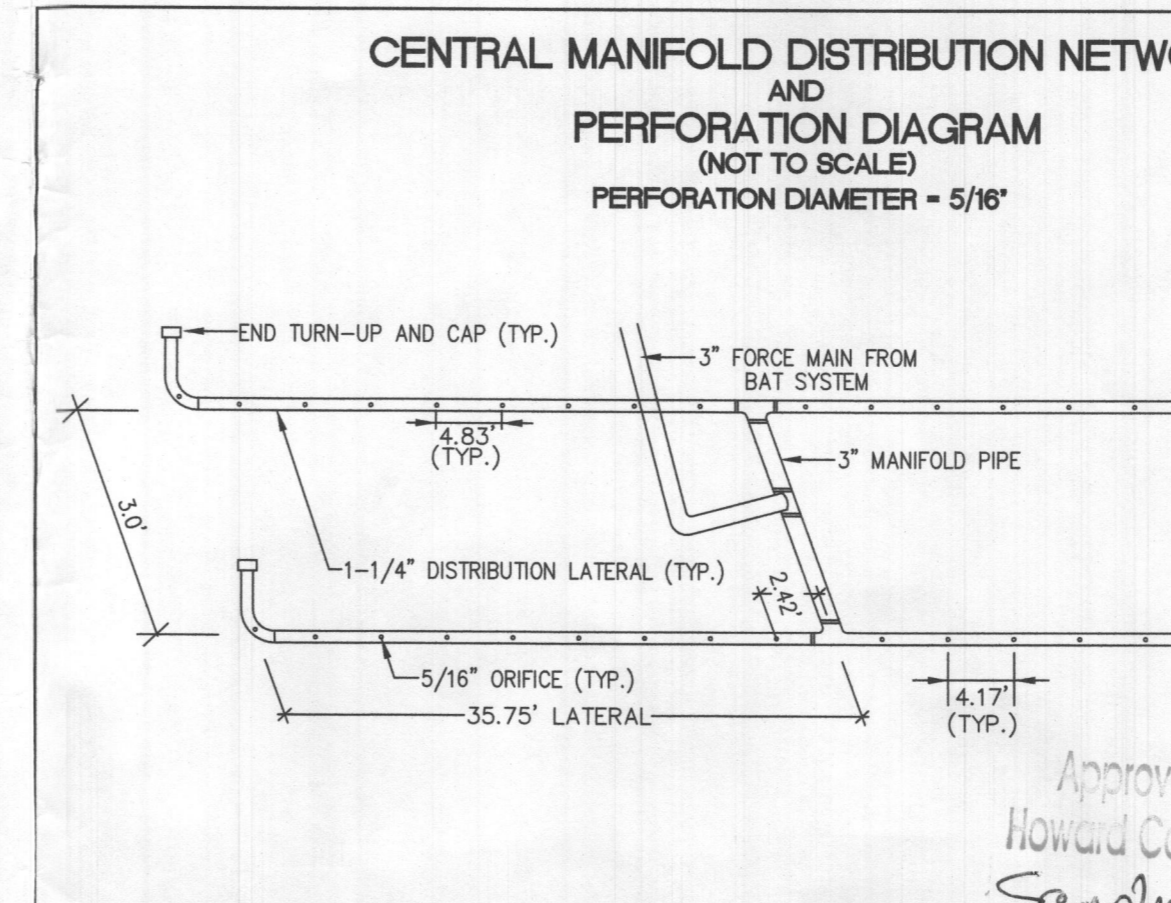
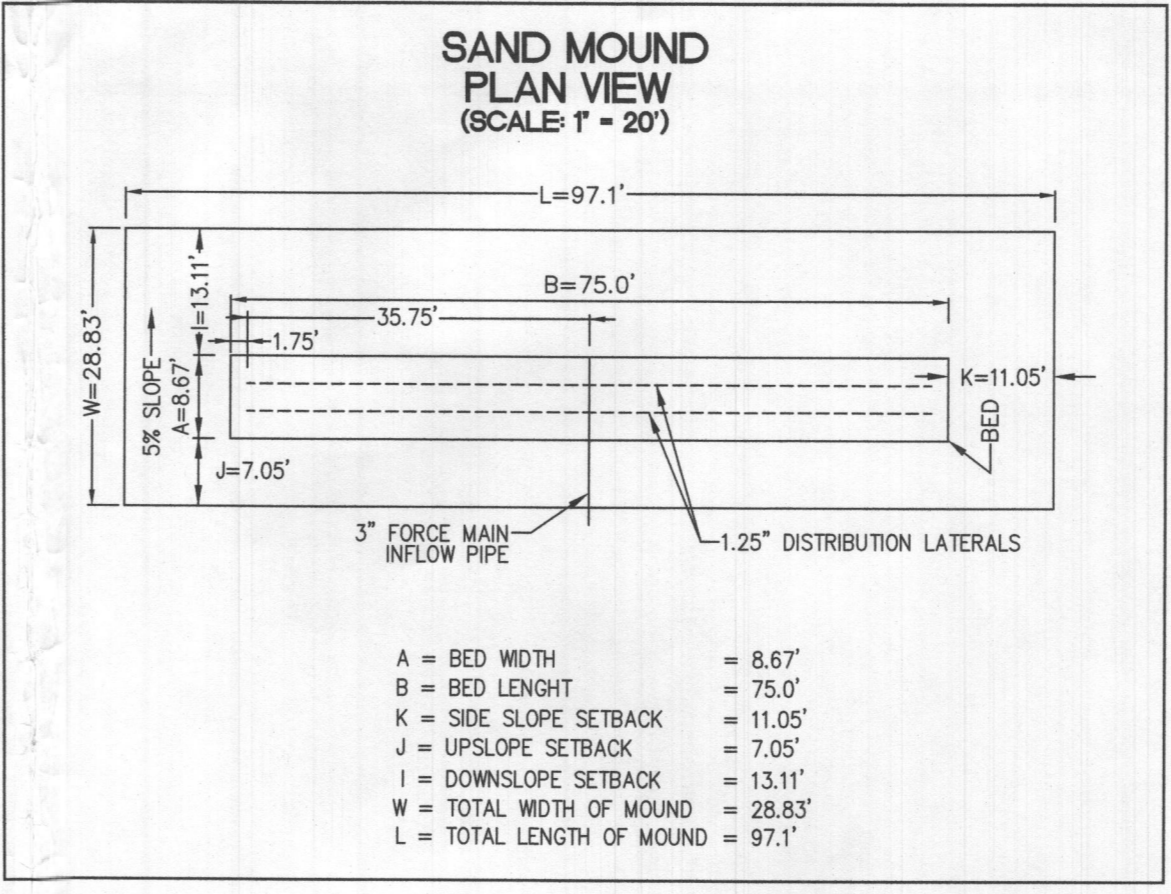
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- Cement - Portland Type III per ASTM C 150-82.
- Admixtures & plasticizers per ASTM C 260-88 & C 484-92.
- Reinforcing per ASTM A195. Min. 1-1/2" cover.
- Top slab sealed with butyl rosin mastic.
- 4" wall, base, & top thickness.
- Max 3" of cover.
- Depending on use of tank, Inlet & Outlet baffles may be required by code.

WEIGHT = 16,000 lbs.

Mayer Bros., Inc.
 6264 Race Road
 Elkridge, Maryland 21075
 Tel: 410.796.1434
 Fax: 410.796.1438
 www.mayerbroscast.com

1,500 GALLON SEPTIC/PUMP TANK
1-Compartment
NON-Traffic MAX 3 FT. OF COVER

Dwg. No. 1600-1C No Scale Aug. 11, 2008



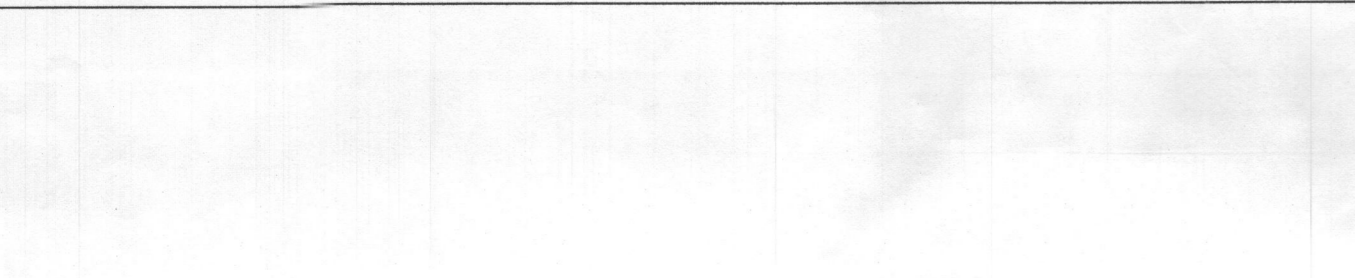
SAND MOUND CONSTRUCTION PROCEDURES

5.1 GENERAL
 Proper construction is extremely important if the sand mound is to function as designed. Installation of a sand mound system is prohibited when soils are frozen. Construction of the mound should not occur if the soil is too wet. Construction and bedding of the soil in the location of the mound and downslope should be avoided. Soil is too wet for construction of the mound if a sample, taken anywhere within the upper eight inches, when rolled between the hands forms a wire. If the sample crumbles, the soil is dry enough for construction to proceed.

5.2 EQUIPMENT
 The following special equipment is recommended:
 1. A small track-type tractor with blade for plowing and grading the sand fill.
 2. A cordless drill for drilling holes in the pipe on site.
 3. A moldboard or chisel plow for plowing the soil within the perimeter of the mound. A rototiller may be used on structureless soils with USDA sand textures.
 4. A rod and level for determining bed elevations, slopes on pipes, outlet elevations of the septic tank, slope of the site, etc.

5.3 MATERIALS
 The following specifications are required:
 1. Sand fill material must be approved by the local Approving Authority prior to hauling to the site. Submit a sample to the local Authority for analysis of at least three weeks in advance of construction or select a sand fill from the list of potential sand suppliers. If a sample is submitted for analysis a fee will be charged. Sand fill shall have an effective size between 0.25 mm and 0.50 mm with a uniformity coefficient of 3.5 or less.
 2. A copy of the receipt from the sand supplier showing the company name, address, phone number, date and product name will be required.
 3. Aggregate shall be clean aggregate free of fines and between 3/4 to 2 inches in diameter.
 4. Geotextile fabric shall be of a type approved by the Approving Authority.
 5. Cap material shall be soil relatively free of coarse fragments and preferably a clay loam or silt loam texture.

5.4 TANK INSTALLATION AND SITE PREPARATION
 5.4.1 Locate and peg-off the entire sewage disposal area to prevent damage to the area during other construction activity on the site. Vehicular traffic over the disposal area should be prohibited to avoid soil compaction.
 5.4.2 Install septic tank(s) and pumping chamber(s) and pumps as shown on the drawings. Call for inspection.
 5.4.3 Stakeout the initial and recovery mound perimeters in their proper orientation as shown on the drawings. Reference stakes offset from the mound corner stakes on recommended. Locate the upslope edge of the absorption bed within the mound and determine the ground elevation at the highest location. Reference this elevation to a benchmark for future use. This is necessary to determine the bottom elevation of the absorption bed.
 5.4.4 Excess vegetation should be cut and removed. Trees should be cut at ground level and stumps left in place.
 5.4.5 Determine the location where the force main from the pumping chamber will connect to the distribution network manifold within the mound.
 5.4.6 Install the force main from the pumping chamber to the proper location within the mound. Pipe should be laid with uniform slope back to the chamber so that it drains after dosing. Cut and stub off pipe one foot below existing grade within the proposed perimeter of the initial mound. Backfill trench and compact to prevent seepage along the trench.
 5.4.7 Plow the soil within the perimeter of the mound to a depth of about eight inches. If the soil is not too wet, moldboard or chisel plow may be used. Plowing should be done along the contour, throwing soil upslope. Use a two bottom or larger moldboard plow. In wooded areas with stumps, roughening the surface to a depth of four to six inches with backhoe teeth may be satisfactory. However, all work should be done from the upslope or sides of the mound if at all possible. Staking should be used on soils with USDA textures of sand. After plowing, all foot and vehicular traffic shall be kept off the plowed area.



Wastewater

APPLICATIONS
 Specifically designed for the following uses:
 • Homes, Farms, Trailer Courts, Motels, Schools, Hospitals, Industry, Effluent Systems

SPECIFICATIONS

Pump

- S/TOW or STOW severe duty oil and water resistant power cords.
- 1/2 - 1 HP models have NEMA three prong grounding plugs.
- 1 1/2 HP and larger units have bare lead cord ends.

Three phase (60 Hz):

- Class 10 overload protection must be provided in separately ordered starter unit.
- STOW power cords all have bare lead cord ends.
- Designed for Continuous Operation: Pump ratings are within the motor manufacturer's recommended working limits, can be operated continuously without damage when fully submerged.
- Bearings: Upper and lower heavy duty ball bearing construction.
- Power Cable: Severe duty rated, oil and water resistant. Epoxy seal on motor and provides secondary moisture barrier in case of outer jacket damage in order to prevent oil wicking. Standard cord is 20'. Optional lengths are available.
- O-ring: Assures positive sealing against contaminants and oil leakage.

MOTORS

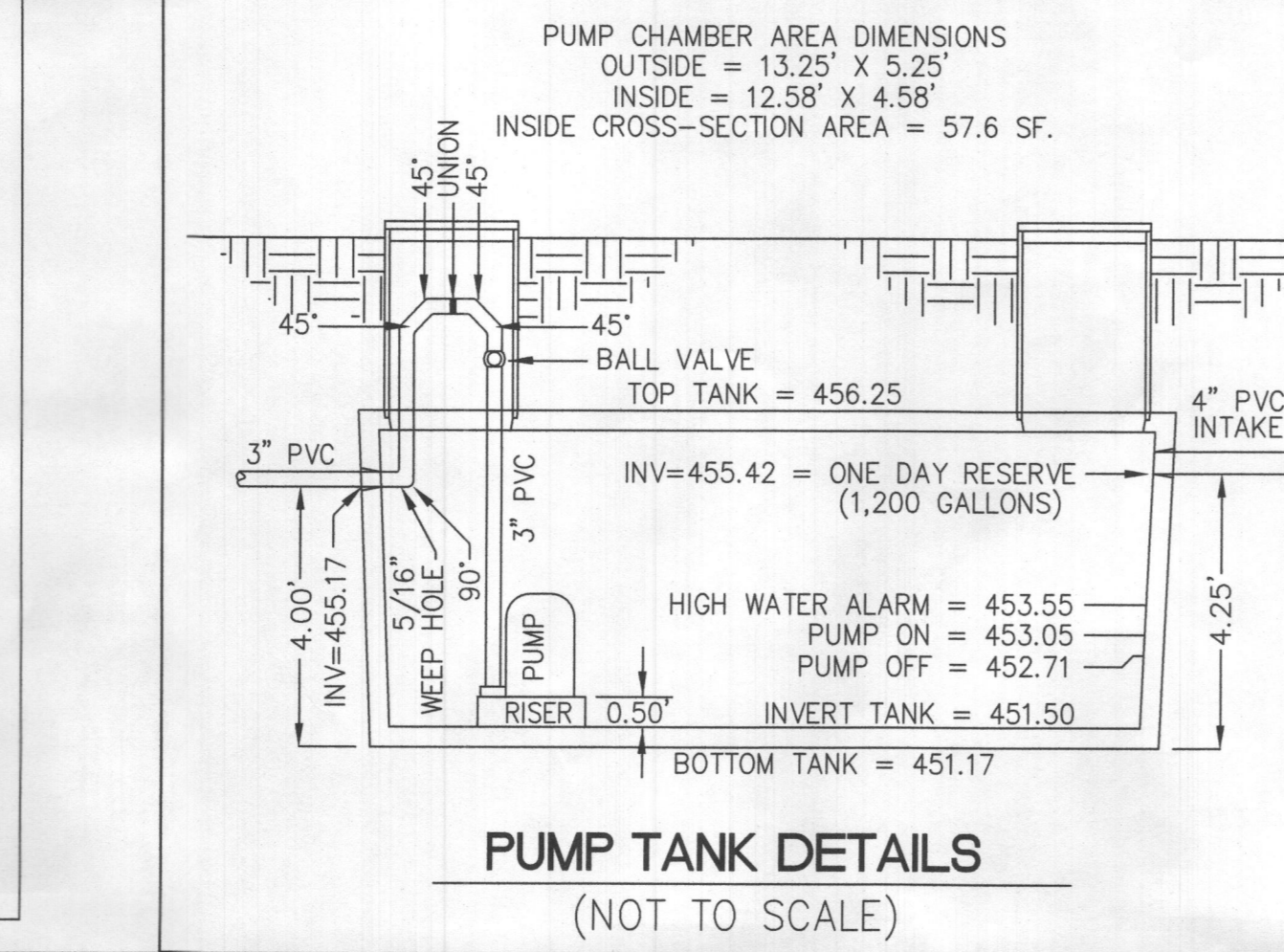
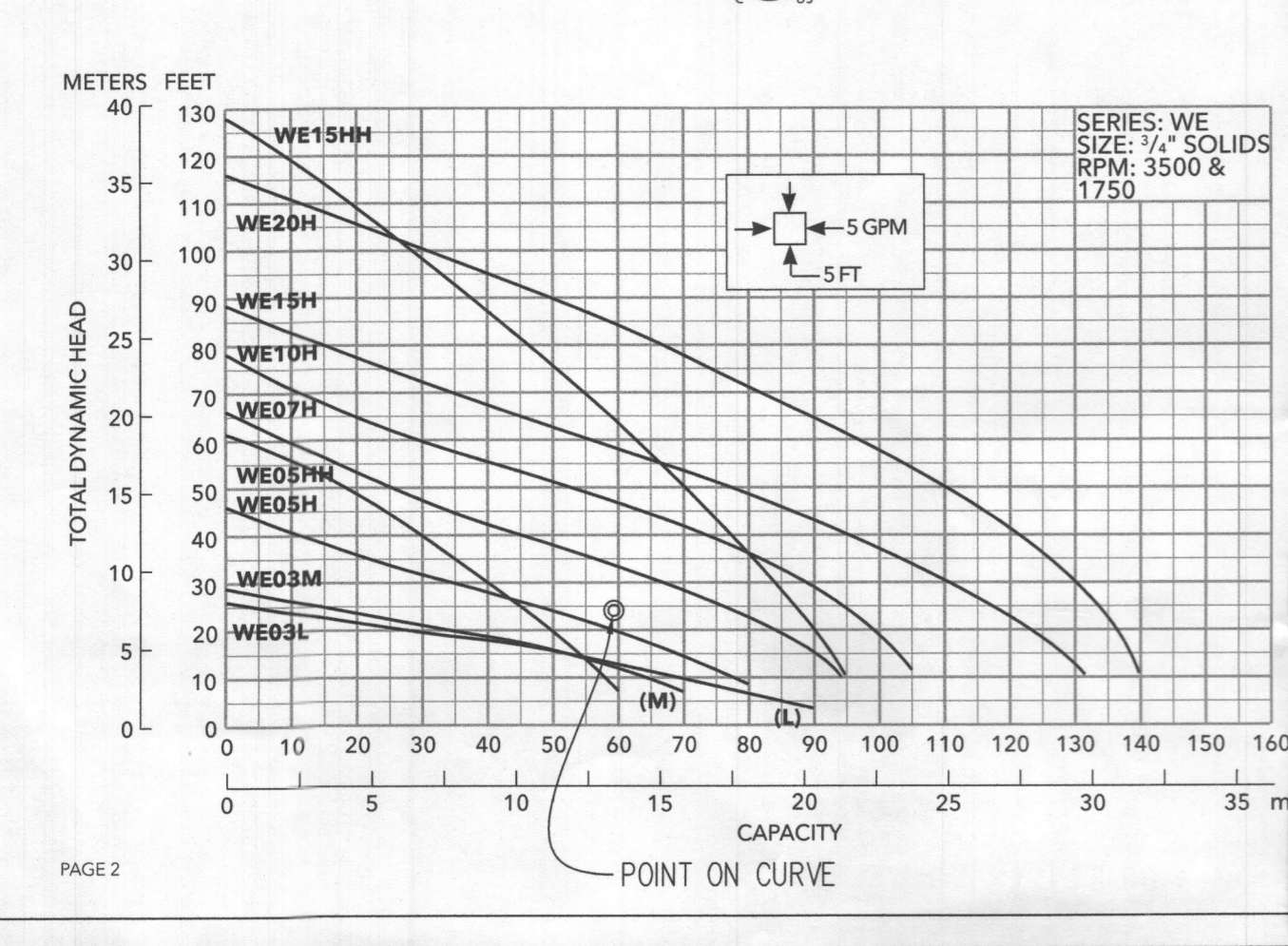
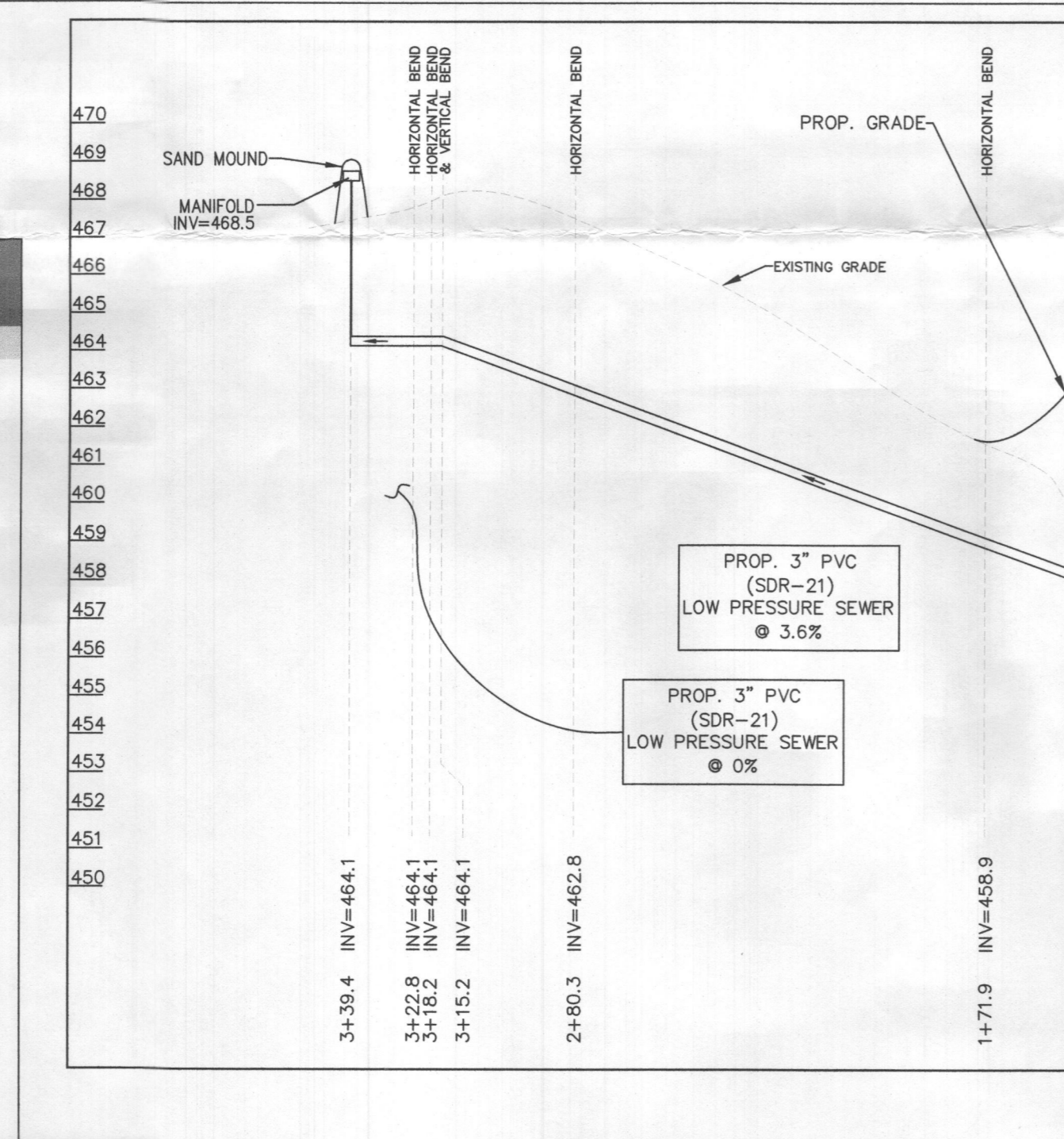
- Fully submerged in high-grade turbine oil for lubrication and efficient heat transfer.
- Class B insulation on 1/2 - 1 1/2 HP models.
- Class F insulation on 2 HP models.

Single phase (60 Hz):

- Capacitor start motors for maximum starting torque.
- Built-in overload with automatic reset.

AGENCY LISTINGS

Tested to UL 778 and CSA 22.2 108 Standards
 By Canadian Standards Association File #LR38549



SAND MOUND SPECIFICATIONS

TYPE OF DISTRIBUTION SYSTEM - CENTRAL MANIFOLD
 NUMBER OF LATERALS - 4
 LENGTH OF LATERALS - $(75 - 1.75 - 1.75) = 35.75$ L.F. (4 LATERALS = 143 L.F. TOTAL)

PERFORATION DIAMETER - 5/16"
 PREFERRED SPACING BETWEEN PERFORATIONS - 50" (4.17')
 NUMBER OF PERFORATIONS = 9 PER LATERAL
 TOTAL NUMBER OF THE PERFORATION FOR 4 LATERALS = 36
 DISTANCE FROM MANIFOLD TO 1ST PERFORATION = 2.42'
 DIAMETER OF LATERALS - 1 1/4"
 DIAMETER OF FORCE MAIN AND MANIFOLD - 3"

EQUATIONS FOR CALCULATING SAND MOUND DIMENSIONS
 SANDMOUND 7-1

DESIGN FLOW FOR 5 BEDROOM HOUSE = 5 X 150 gpd = 750 gpd
 ABSORPTION BED (A X B) = 750 = 625 SQ.FT. (MIN.), 650 SQ. FT. (USED)

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 ABSORPTION BED (A X B) = 750 = 625 SQ.FT. (MIN.), 650 SQ. FT. (USED)

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 ABSORPTION BED (A X B) = 750 = 625 SQ.FT. (MIN.), 650 SQ. FT. (USED)

LOW PRESSURE DOSING SYSTEM

NUMBER OF PIPE INVERT LATERALS	LATERAL LENGTH	ASSUMED HEAD	ORIFICE DIAMETER	ORIFICE FLOW RATE	ORIFICE SPACING	ORIFICE FLOW RATE PER LATERAL	FLOW RATE PER LATERAL
4	468.5	35.75	2.0"	5/16"	1.63 gpd	4.17'	9
						0.32	14.67 GPM
							58.68

PUMP CAPACITY CALCULATIONS

MINIMUM SYSTEM DISCHARGE RATE = 58.68 gpm
 3" PVC MAIN $f = 1.73 / 100'$
 3" MANIFOLD

DOSE:
 LATERALS + MANIFOLD + MAIN
 1.25" LATERALS: 4 X 35.75 X 7.8 / 100 = 11.15 GALS.
 FORCE MAIN 274.8 X 38.4 / 100 L.F. = 105.52 GALS.
 MANIFOLD 3 X 38.4 / 100 L.F. = 1.15 GALS.
 TOTAL = 117.8 GALS.
 1/6 X 750 GAL = 125 GALLONS > 117.8 => (125 GAL = MIN. DOSE)
 RUNTIME = 1.5 MIN.

PUMP CHAMBER:
 ONE DAY DOSE = 1,200 GALLONS

TDH: (FITTINGS)

DISCONNECT:	1 X 3	= 3
45°:	8 X 6	= 48
22.5°:	3 X 3	= 9
90°:	3 X 10	= 30
VALVES:	1 X 2	= 2
TOTAL =		92

FRICITION:
 MAIN + FITTINGS = 274.8 + 92 = 366.8
 366.8 (1.73/100) = 6.35

STATIC:
 (INVERT OF MANIFOLD - PUMP OFF) 468.5 - 452.7 = 15.8
 DISTAL HEAD = 2.0'
 TDH (6.35 + 15.8 + 2.0) = 24.2 @ 58.68 GPM

USE GOULDS PUMP MODEL (WE07H)

APPROVED SEPTIC SYSTEM PLAN
 HOWARD COUNTY HEALTH DEPARTMENT

SIGNATURE _____ DATE _____

PLAN PREPARED BY:
NJR & ASSOCIATES
 Land Surveying and Planning
 2770 TERRAPIN RUN
 WEST FRIENDSHIP, MD 21794
 TEL: (240) 508-3200
 Email: ROSHANNJ@AOL.COM

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL LAND SURVEYOR UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE # 11049, EXPIRATION DATE: 2/10/2023.

APRIL 5, 2022
 DATE

DEVELOPER
 CARUSO HOMES
 2120 BALDWIN AVENUE,
 Ste 200
 CROFTON, MD 21114
 (301) 261-0277

OWNER
 RICARDO PALAJOCS
 1808 GREENWICH WOOD DRIVE
 SILVER SPRING, MD 20903
 (304) 292-9976

ONSITE SEWAGE DISPOSAL PLAN
 FOR A BAT AND SAND MOUND SYSTEM
PARCEL 274
 TAX MAP 40, GRID 20
 LIBER 20690, FOLIO 161
 12370 HALL SHOP ROAD, HIGHLAND, MARYLAND 20777
 5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SCALE: 1" = 40' JOB NO.: 3560 DATE: FEB. 10, 2021 SHEET: 2 OF 2